

REMARKS

Claims 1 and 10 are amended and Claim 17 is added. The preamble of each of Claims 1 and 10 is amended to correct a minor typographical error. Claims 1-17, as amended, remain in the application.

Proposed drawing amendments are submitted herewith. No new matter is added by the amendments to the drawings and the claims.

In the Office Action dated April 21, 2004, the Examiner objected to the drawings because the blank rectangular boxes and/or merely numbered boxes of figures 1, 2b must be labeled. The Examiner stated that although not required, labels with the elements of figures 2a, 3a-3c would be helpful.

Applicants submit herewith proposed drawing amendments for Figs. 1, 2a, 2b, and 3a-3c. As requested, Applicants labeled the numbered boxes and the elements as requested by the Examiner. In Figs. 2a and 3a, Applicants added an arrowhead to the lead line for the code strip "9" that includes the magnetic strip "14" and the cover strip "15". In Fig. 3c, Applicants added lead lines to the References numerals "37", "40", "41" and "42". Upon approval by the Examiner, Applicants will submitted corrected drawings.

The Examiner rejected Claim 1 under 35 U.S.C. § 102(b) as being anticipated by Toyoshima et al. (JP 354131237). It appears that the correct patent number is JP54131237. The Examiner stated that the Japanese patent teaches in figures 1-11, a selector tape for an elevator. The Examiner also stated that a car for an elevator on guide rails (not shown) contains a selector tape 4, the selector tape contains coded data for floor selection and positioning, and that a cover 11 (paint or coating i.e. non-magnetic) is applied to the tape.

The Japanese patent shows a movable metal sheet tape 4 that is attached to and moves with the elevator car guided over rollers 5 and 6 and through tape guides 10. The tape 4 is perforated to form claws 7 and engages the perforations with a toothed wheel (not shown) of the floor selector 2. A coating 11 is applied to a surface of the tape 4 to reduce noise as the tape moves through the tape guides 10 during operation of the elevator car.

Applicants amended Claim 1 to clarify that the code carrier is fixed along the travel path of the elevator car. In contrast, the tape of the Japanese patent moves with the elevator car along the path of travel.

Applicants also amended Claim 1 to clarify that the code marks have different magnetic permeability. In contrast, the tape of the Japanese patent has constant magnetic permeability, except for the perforations where there is no magnetic permeability.

If the Examiner considers the perforations in the tape of the Japanese patent to be "code marks", then the coating 11 does not cover the "code marks" as defined by Applicants' claims.

The Examiner rejected Claims 2, 9 and 16 under 35 U.S.C. § 103(a) as being unpatentable over the Japanese patent. The Examiner stated that the Japanese patent does not state a metallic cover but does state that any coating or pasting of another tape may be applied. Thus, the choice of material applied is considered a matter of convenience.

The arguments set forth above with respect to the patentability of Claim 1 also apply to dependent Claims 2 and 9.

With respect to Claim 2, the Japanese reference teaches that the coating is used to prevent the generation of noise by the metal tape. Thus, it would be contrary to the teaching of the Japanese patent to use a metal material for the coating.

Claim 9 defines the code carrier as being fastened to a guide rail in a magnetic self-adhering manner. The tape in the Japanese patent is not fastened to a guide rail, but is attached at opposite ends to the elevator car.

Claim 16 depends from independent Claim 10 and is similar in wording to Claim 9. Thus, the argument set forth above with respect to the patentability of Claim 9 also applies to Claim 16. Furthermore, Claim 10 recites a guide rail with a longitudinally extending groove formed therein which is not shown in or suggested by the Japanese patent.

The Examiner rejected Claims 3-6 and 10-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Japanese patent and the U.S. Patent No. 6,128,116 issued to Dobler et al. The Examiner stated that the Japanese patent does not illustrate the grooved rail. According to the Examiner, the Dobler et al. patent teaches that for improved speed detection/positioning within an elevator installation, it is advantageous to utilize tape readers as opposed to costly and high maintenance cams/rollers, and that the tape 29 positioned in a groove 16 on the T-rail 16. Thus, according to the Examiner, to utilize a grooved rail with tape attached within the Japanese patent would have been an obvious engineering design choice to one of ordinary skill in the art to improve speed detection and positioning.

The Dobler et al. patent shows a reflective tape 29 disposed on the stem of a guide rail 13 and a reflective tape 28 disposed on the base of the guide rail. Thus, the Dobler et al. patent teaches the placement of the tape on the surface of the guide rail. There is no groove formed in the Dobler et al. guide rail as claimed by Applicants in independent Claims 1 and 10 and shown in Applicants' Figs. 2a, 2b, 3a-3c, 4a, 4b and 5.

The Dobler et al. patent also does not suggest placing the tape in a groove in the end face of a guide flange as defined by Applicants' Claims 6 and 13.

Furthermore, no combination of the Japanese patent and the Dobler et al. patent shows code marks of magnetic permeability as defined by Applicants' independent Claims 1 and 10.

The Examiner rejected Claims 7, 8, 14 and 15 under 35 U.S.C. § 103(a) as being unpatentable over the Japanese patent and Dobler et al. patent, and further in view of the U.S. Patent No. 6,393,360 issued to Ma (6393360). The Examiner stated that the Japanese patent and the Dobler et al. patent do not illustrate the cover details, but that Ma patent teaches that for a vehicle positioning system it is advantageous in a passive detection system which has coded data embedded in the path (rail), to provide an overlapping cover to protect the coded data (See figures 7B, 8B).

The Ma patent shows a vehicle locating and directing system using a magnetic tape 122 buried in a roadbed 102 and protected by a cover layer 120. Applicants note that the International Class, U.S. Class and Field of Search of the Ma patent do not overlap with the Dobler et al. patent, and the International Class of the Ma patent does not overlap with the Japanese patent. Thus, one would not be motivated to seek out and combine the teaching of the Ma patent with either of the other two cited elevator references.

The Ma patent does not provide any of the missing elements discussed above. The Ma patent also teaches that the magnetic tape 129 be oriented transverse to the direction of travel of the vehicles. However, Applicants' claims define the code carrier as extending along the travel path.

Claims 8 and 15 define the lateral barriers of the cover as extending beyond the code carrier. In the Ma patent, the magnetic tape 122 and the cover layer 120 are the same width as the groove in the roadbed.

Applicants added independent Claim 17 that is similar to Claim 10, but defines the code marks as having different magnetic permeability and spaced in the direction of travel. Claim 17 also defines the cover as being flush with an outer surface of the guide rail. There is no combination of the three cited references that results in the invention defined by Claims 1-17.

The Examiner stated that the prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. U. S. Patent No. 6,612,403 issued to Silberhorn et al.; U. S. Patent No. 6,622,827 issued to Disieno; U. S. Patent No. 5,821,477 issued to Gerkenstorn; U. S. Patent No. 5,360,085 issued to Yoo et al.; U. S. Patent No. 4,798,267 issued to Foster et al.; U. S. Patent No. 4,683,990 issued to Wright; U. S. Patent No. 4,833,306 issued to Milbrett; U. S. Patent No. 5,023,434 issued to Lanfer et al.; U. S. Publication No. 2002/0025603 issued to Ondricek et al.; U. S. Patent No. 5,594,219 issued to Kamani et al.; U. S. Patent No. 6,435,315 issued Zaharia; Japanese Pat. Spec. No. 03208189 and Japanese Pat. Spec. No. 05085679 are cited to illustrate similar elevator positioning systems/readers. Applicants have reviewed these references and found them to be no more pertinent than the references relied upon by the Examiner in his rejections.

In view of the amendments to the claims and the above arguments, Applicants believe that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.